Rec Jan 24th
ans Feb 9 P.C

Department of Agriculture.

Washington, Jany 21st 1876

Dr G. Englemann

Dear Sir,

Yours of the 10th inst rec'd.

I did not intend to ~~[illegible]~~ definitely name the Abies macrophylla, but to give a general notice of it, and suggested that if new the name macrophylla would be appropriate. The heading of the article was added I suppose by the editor. Yet I am strongly disposed to believe that it is a good species. I have a lot of material here accumulating which I wish to submit to your attention as soon as all the packages are rec'd. The California & Oregon Collections have not yet arrived. The Oregon man has sent some 10 or 12 species I suppose but cannot tell what they definitely are. I will send you a representation as soon as possible. Dr Palmer has again gone to Cal. and will probably go into Arizona to explore, and may get other conifers. He is probably now at San Bernardino.

I would be glad of a living Sax. Torreyi

Yours truly

Geo. Vasey

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GEORGE ENGELMANN PAPERS

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Rec'd March 27th
Ans —31st—

Department of Agriculture.

Washington, March 24th 1876

Dr. J. Engelmann

Dear Sir

I sent you by Express a box of specimens of Conifers and other things for your investigations. The Cacti in tin cans and the specimens in the papers were collected by Mr. L. F. Ward (with Powells Exp.) in Utah last summer, and you will report upon them by the numbers so far as there are numbers given. Mr. J. G. Lemmon ~~has~~ wrote that he had sent you a full suite of his Coniferae so that I have not put in many specimens from him — I have however sent down Sp. of Abies grandis & amabilis from him — I find it very difficult to distinguish between these, but hope when I get all the specimens together from all sources to be able to

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ing my Oregon trees & specimens were last sight of, and I have just learned that they are at San Francisco. They will be shipped immediately but may not arrive in season for the Exposition. However I have an Abies grandis from California (Mendocino County) which shows conspicuously the emarginate leaves. I have not yet reached the botanical specimens for this kind, but will send you some hereafter. This seems to correspond to Gordons description of Abies Lowiana. I wish to ask your attention also to the Junipers. Dr. Palmers specimens from S. Cal. (near San Felipe canon) show large sweet fruit, with 2 large perfectly free seeds. Dr. P's S. Utah specimens and also Mr Wards Utah specimens have pretty large fruit not so sweet, and the seeds usually 1, and that not free from the pulp.

Your truly
Geo. Vasey

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collate them and distinguish between them—
Mr Ward who collected in Utah (in the mountains east of Gunnison) what I suppose be Abies grandis in 2 forms — one he says is called White Balsam and the other Black Balsam. The trees are different, he thinks, and can be readily distinguished — Unfortunately Mr Ward procured little or no fruit of one of them. There are specimens of the leaves in the box. Mr. Lemmon wrote that he could hardly distinguish the twigs except by the twisted of A. grandis — I have good specimens of A. concolor from S. Utah collected by Dr. Palmer with a corresponding section of wood — which he says is called Black Gum, and think it is certainly different from A. grandis as it grows on mountain sides, and A. grandis invariably grows along water courses in the shade of other trees. Neither Abies concolor, grandis, nor amabilis, have the emarginate leaves mentioned by Newberry as characterizing the Oregon grandis. Unfortunately the boxes contain—

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Rec'd April 5th
Ans Same

INTERNATIONAL EXHIBITION OF 1876.

Board on Behalf U. S. Executive Departments.

U. S. DEPARTMENT OF AGRICULTURE.

Washington, D. C., April 3d 1876

Dr. G. Engelmann

Dear Sir,

I know most of the specimens of Coniferæ sent were horrid for the Herbarium, but I had, in most cases, specimens of the twigs with cones attached, sent so as to make the identification complete. I do not wish them returned, only a Report by numbers and references. Since sending the box I have received some specimens of Abies grandis so called from California, and enclose herewith a twig to show the character of the leaves. I suppose this to be what Gordon calls Abies (Picea) Lowiana — My Oregon Collection has not arrived. I expect it will contain the same kind. In the London Gardener's Chronicle of March 11th is an article from Andrew Murray respecting Pinus Balfouriana, with a figure of a cone, which certainly is not the P. Balfouriana of S. Utah, which I suppose

you consider to be identical with P. aristata of Colorado. I do not remember any such cone among any specimens that I have received.

Mr Lemmon sent what he called Pinus contorta var. Bolanderi. Is this the P. muricata var Bolanderi which Gordon makes to be P. Bolanderi, Parl.? Do you admit Pinus deflexa, Torr. & P. Llaveana figured in Mex B. Rept.? What about P. Chihuahuana? I have received none of these so far as I can judge - One form of P. ponderosa, or what I have called so, from the Mountains east of San Diego, collected by Dr Palmer, has cones which correspond closely to the figure of P. deflexa.

I am puzzled to know how many Oaks to admit in my list from California. I have Quercus lobata, Q. ~~Garryana~~ Gambellii, Q. densiflora, Q. chrysolepis, Q. Sonomensis, & Q. Wislizenii; and Q. agrifolia also a form which Dr. Kellogg calls Q. Morehus which seems near Wislizenii. Q. Kelloggii I suppose is a synonym of Q. Sonomensis is it not? Q. undulata I suppose is the common Rocky Mt oak Is that also found on the Pacific slope? Is Q. Douglasii of the Wilkes Exp. a form of undulata? What of Q. Garryana?

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And what of Q. oblongifolia var. breviloba of Wilkes Exp?
Is it the same as the Q. oblongifolia from N. Mexico and
Arizona—? Can we keep separate Q. Emoryi and hastata?
I have numerous specimens of dwarf oaks from Southern
California which I suppose are the Q. dumosa, Nutt.
The box of roots of Saxifraga has just arrived—
Please accept my thanks for the same.

Yours truly
Geo. Vasey

P. S. The conifers collected by Mr Ward in Utah
were collected near Gunnison— Dr Palmer
collected near St. George— and also in S. California.

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Rec'd April 7th
Ans 29

INTERNATIONAL EXHIBITION OF 1876.

Board on Behalf U. S. Executive Departments.

U. S. DEPARTMENT OF AGRICULTURE.

Washington, D. C., April 5th 1876

Dr Geo Engelmann

Dear Sir,

I inclose a specimen of what I suppose to be Phoradendron juniperinum, with a twig of the Juniper on which it grew. It was collected in Eastern Utah by Mr L F Ward. Some plants of Dr Rothrock's collection of 1873 were here a year ago and I understood Dr R. to say that the Oaks, Loranthaceae &c had been sent to you and that you had reported on them and he had left the Report at home but would send it, which however he forgot to do. If you have a copy of the Report would you oblige me by sending to me?

I have specimens of a Juniperus from Texas, sent by Lindheimer and also by Buckley as Rock Cedar. Lindheimer says J. occidentalis. I forgot whether I sent you any specimens or not. Buckley also sent 1 specimen of a Juniperus from Western Texas

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which has brownish berries, like specimens in the Herb. (1890 C. Wright) called J. pachyphlœa Torr. These look much like the specimen I sent you of Dr Palmer's collection called J. tetragona, but Dr Palmer's are one seeded and J. pachyphlœa is described as 3 seeded.

Yours truly
Geo. Vasey

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Rec'd June 17th
Ans same day

Department of Agriculture.

Washington, June 15th 1876

Dr. Geo Engelmann

Dear Sir

Your favor of the 9th inst. was duly rec'd. I had hoped for a Report from you before I took my Collection to Philadelphia. I saw Dr. Gray there and he expressed himself much pleased with the Collection. I would be very glad to meet you there and obtain your criticisms on the Coniferae. I did not generally get duplicate specimens of any species except in the case of some of the Coniferae. In many cases I did so in that order hoping that good tree sections might furnish desirable characters to

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distinguish varieties or forms — For instance I have sections of P. ponderosa from S. California — Eastern Cal — Utah & Colorado. Also ~~P~~ P. contorta from Colorado, Sierra Nev. Mts. & California — Abies grandis from Col. Utah & 2 or 3 points in Cal. &c — I suppose you will visit the Exposition and if you would give me a few days notice I will try to meet you there as I could give you some information additional to what is apparent in the Collection. I was much disappointed in the Oregon lot. It turned out that the man was not competent to the task not being well posted. For instance he sent Juniperus occidentalis Hook. as Cupressus Nutkaensis, and Abies amab-

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GEORGE ENGELMANN

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dis & Douglasii he had confounded.
I would like you to see the cones & foliage
of Doun that he sends — He sends one that
is undoubtedly A. Menziesii, and another
from the base of Mt. Hood which he called
A. Newberryi but which is certainly either
A. Menziesii or Engelmannii — I think
the latter but I did not know that A. En-
gelmannii grew in that locality.
Mr Ward thinks that you have not reported
on all his Cactaceae — If there are others
please report on them when convenient — Mr Ward
also requests me to inquire if you will
furnish a description of the Abies subalpina
for publication in the Report which he is pre-
paring for his last summers Collection.

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I do not wish any of the cones
sent you returned. I wish to send
you when convenient some specimens of
California Oaks, especially of the dwarf
Oaks, among which I suppose is Q. dumosa
Nutt. — What is the Oak figured in Mich + Nutt.
Sylva - vol IV (Vol I of Nutt) ~~plate~~ plate 3, and
called Q. undulata. It appears to me nearer
Q. Emoryi. What is Q. Morehus of Dr Kellogg
I confess myself yet in the dark on Junipers
My specimen from Oregon has the glands on the back
of the leaves mentioned by Hooker, just as they
also exist in Herb. specimens which you have called
J. occidentalis var pleiosperma — But these seem
to me quite different from Mr Lemmons specimens and
those of Mr Ward from Utah —
Dr Bigelows specimen of Whipples Exp. in our Herb.
marked J. tetragona Schlect. seems to be exactly the
large fruited juniper sent by Dr Palmer from S. Cal.
I fear that the plant of Saxifraga Forberii you sent is dead.
I consider it distinct from Penns.

Yours truly
Geo. Vasey

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Rec'd July 14 '76

Department of Agriculture.

Washington, July 12th 1876

Dr G. Engelmann

Dear Sir,

I sent you by Express a few days ago a package of plants, chiefly Oaks. I do not wish them returned but could like a full report. Some specimens marked Q. bicolor (without the white under surface of the leaf) are perhaps Q. Prinos var. But I have not these forms clear in my mind. The Q. Prinos with large & long leaves is our upland Chestnut Oak with close rather dark bark which does not scale off like the bicolor & alba.

The Q. Prinos var. from Vermont is very remarkable for its thick deeply furrowed bark. A section which is 10 or 11 inches diameter is nearly half bark. How it is about the bark on the branches I do not know.

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Mr Ward also put in some specimens which exhibit some curious features. Your paper on Agave was received long ago and should have been acknowledged. I am very much indebted to you for that and the paper on the Oaks

Truly Yours
Geo. Vasey

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Rec'd Aug 4
Ans Same day

Department of Agriculture.

Washington, Augt 1st 1876

Prof. Geo. Engelmann

Dear Sir

Some days ago Mr Ward showed me your letter to him acknowledging the reciept of specimens of Oaks &c. I am sorry that I neglected to number the specimens as you suggest, but hope that you will be able to report upon them by the accompanying tickets. I shall endeavor to give particular attention to such oaks as grow in this vicinity and collect good fruiting specimens, and note the character of bark and habit of tree.

When Mr Ward asked me to obtain characters of Abies subalpina it was wholly with reference to his official report for Maj Powell. He afterward spoke to me about publishing it in some journal, at which I was somewhat surprized, but perhaps without

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sufficient thought said that I presumed you would not care. Mr Ward was, I think, actuated by ambition to make a good show for the Expedition with which he was connected, and had no ~~idea~~ intention to do you injustice or embarrass you. But as the publication of his Report is still distant, he thought it would be well to anticipate it. Such I suppose to his reasons.

I have just received from Arizona a specimen of living Cereus giganteus some 8 feet high; also a good section of Olneya Tesota - They will be immediately added to the Collection at Philadelphia. I shall probably go there for a week or so after the middle of this month,

Hoping to hear from you soon

I am Yours truly
Geo. Vasey

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Rec'd Aug 19th

Department of Agriculture.

Washington, Augt 16th 1876

Dr. Geo Engelmann

Dear Sir,

Your letter of the 4th inst was duly received. The specimens I sent marked Quercus bicolor, near a brook N E Washington, tomentose below, but with the form of Prinos, are I believe what Michaux describes and figures as Q. Prinos palustris page 43 plate 8. But although the ~~leaves~~ have the form of Prinus they are tomentose below and the bark is whitish and scaly like that of bicolor and alba. The question is will the smooth limbs and chestnut like bark of Prinus montana be a specific distinction. How is it with the bark of the Prinus acuminata? The Quercus Castanea with galls is a true Quercus - I am going to look after it again. The Texas Oaks Mr Buckley sent me last winter. I had no confidence in his names - The one he called Q. Vaseyi, he thought to be new and said he would publish it with my name if

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I would allow - I wrote to him that I thought it was probably D. undulata or oblongifolia, but did not wish him to publish, at least not until sufficient good specimens were secured to establish its character.

I agree with you that his D. Texana is D. palustris. As to the others nothing clear can be known without better and abundant specimens. I gave you all the items I had about the dwarf Oaks from California. A good careful observer and collector seems to be wanted in that field.

I hope to give you a good set of our interesting species in course of the season.

With many thanks

Yours truly

Geo. Vasey

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Philadelphia Sept 20th Having occasion to come to Pa
I find that you did not receive this letter which I had sent
to you, and hence I mailed Washington Sept 22d 76
to you at St Louis.

Dr. G. Engelmann

Rec'd Oct 26th

Dear Sir

Some time ago I wrote to Mr Derry, (who made the collection of sections in Colorado,) asking him to send me cones of the Abies subalpina so called, or H No 9 as marked on the section in the Govt Building. On my return this morning I find a letter from Mr. Derry and also one from a Mr Wilson of Denver who has been botanizing in Mr Derry's locality, and who at his (Mr Derry's) request has drawn up a description of the tree which I copy on the other side of this sheet. Mr Derry says that he had cut down 10 or 12 trees to find cones, but without success – it does not seem to be fruiting this year.

Yours truly
Geo. Vasey

His description of the cones is drawn from fragmentary specimens of last year, found on the trees cut down.



Abies subalpina Eng.? (H 9 of the sections)

A tall straight tree 75 ft high, branchs horizontal or ascending; bark ashy gray with balsam bearing blisters and ducts. Leaves 8 to 12 lines long, 1/2" to 3/4" wide straight or curved, crowded in two rows, twisted above the contracted base, glaucous beneath, smooth and very obtuse, rarely emarginate; those of the upper fruiting branchlets broader, very rigid and acute; (male aments not seen) Cones lateral, solitary or in pairs, erect, sessile, oblong ovate in outline, 1 to 2 1/2 inches long, 6 to 15" wide, obtuse. Scales broadly elliptical, unguiculated, spreading horizontally, 3 to 6" long, 4 to 8" wide, flat or slightly concave, deciduous, margin thin and pubescent, somewhat revolute, bracts orbicular or obcordate 1/3 to 1/2 the length of the scale, erose dentate, tipped with a stiff mucronate awn 1/2 to 1" long. Seed irregularly oborate, 3" long, light brown, wing broad, angular, equaling the scale.

Twin Lakes at 9800 ft. altitude in damp, well-wooded gorges.

Missouri Botanical Garden
George Engelmann Papers

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Rec Nov 3d
Ans same by G.O.C

INTERNATIONAL EXHIBITION OF 1876.

Board on Behalf U. S. Executive Departments.

U. S. DEPARTMENT OF AGRICULTURE.

Washington, D. C., Oct 31st 1876

Dr Geo Englemann

My dear Sir,

Several weeks ago I sent your box of specimens, and I suppose you are in receipt of them. I also mailed to you a few days ago a Catalogue of the trees of the U. S. Some things in this Catalogue perhaps ought not to have been introduced; as for instance, Opuntia arborescens, and probably there are a few trees which I have overlooked. I will be pleased to receive any criticisms which you may have to offer in relation to it, so that I may improve it in the future. I wrote to Mr Lemmon about the specimen of Libocedrus and he assures me that it does truly Libocedrus — Prof Brewer examined it and also pronounced it Libocedrus. I also found in the California collection in Ag. Hall, a transverse section of Libocedrus some 2 ft across, which showed clearly the same spongy bark though not so thick. It must be that this

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is a character acquired by large or old trees.
Dr. Palmers specimen was collected on the extreme limit of the species in S. E. California where it never attains a large size. The twigs sent by Dr Palmer differ in no appreciable respect from those sent by Mr Lemmon.
I made no remarks on Cupressus MacNabiana in the Catalogue because I did not feel satisfied that my specimen and ~~they~~ its history were correct. Gordon in his "Pinetum" says "a compact glaucous bush from 6 to 10 ft high" Hoopes says, "A large shrub growing to the height of 10 ft." My specimen was from Marin Co, north of San Francisco with the statement that some trees grow to the height of 40 or 50 ft and the thickness of 2 to 2½ ft. Last week I met at Philadelphia a Mr Begg from California, the exhibitor of that pyramid of cones and he seems to be pretty well informed respecting California trees - He says that Cupressus Macnabiana grows on the Coast range north of San Francisco and that it is a tree becoming 50 or 60 ft high - He also knows C. macrocarpa & C. Goveniana and further says that last summer he found a new kind of Cupressus on ~~the~~ some Mountains east of San Francisco

at an altitude of 2800 ft. which he describes as a magnificent and beautiful tree, growing to the height of 120 ft, and of a circumference of 8 ft.
It is possible that this is Cupressus Lawsoniana, but Mr Bigg had no specimens by which to determine.

Truly Yours
Geo. Vasey

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GEORGE ENGELMANN HERBARIUM

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Rec'd Nov 25-14
" — 27

Department of Agriculture.

Washington, D.C. Nov. 23 1876

Dr. Geo. Engelmann,

St. Louis,

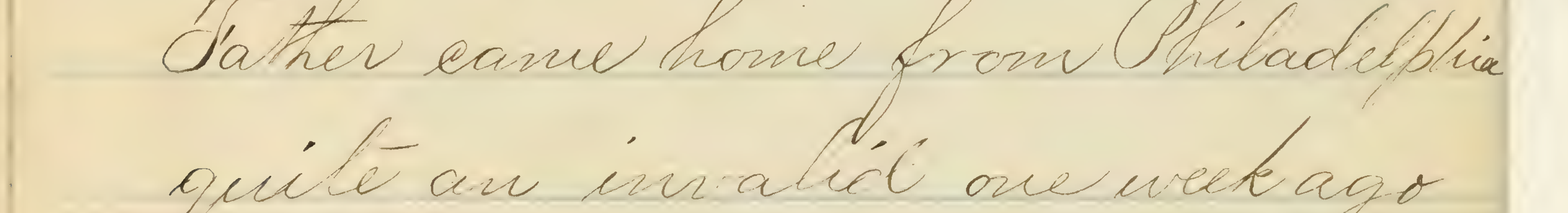
Mo.

Dear Sir,

I send by mail this evening cones and leaves from the same tree, A. bies pectinata, but did not succeed in getting leaves on the branch with the cones.

Am sorry that they could not have been procured sooner.

Father came home from Philadelphia quite an invalid one week ago to-day he had a stroke of paralysis



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affecting his whole right side.
He has been improving slowly
since his return, but it will be
a number of weeks before he will
be able to come back to his office,
the Doctor tells him.
Hoping the ones will be
satisfactory and if not ~~perhaps~~
Ja will furnish you with
others when he recovers.

Very respectfully
Jenny A. Vasey.

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Department of Agriculture.

Washington, D.C. Dec. 6th 1876

Dr. Geo. Engelmann

Dear Sir,

Father is very much better, has been here for an hour a day, since last week Friday he gets tired very soon, and is apt to work to much, but if he continues to improve as he has within the last week I think that he will soon be at work again, he can not write but a few lines at a time yet. Am sorry that the specimens were so poor, but pa says he will see that you get better as soon as he is able. Father thinks he can write soon and will then let you know more about the oaks.

Very respectfully

Jenny A. Vasey

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Rec March 24th
Ans ——— 28

Department of Agriculture.

Washington, March 22d 1877

Dr Jos Engelmann

Dear Sir

I send you to day a box containing specimens of two pines sent to the Department by Mr W. G. Stegman of California - I will quote from his letter —
"I send by to days mail two specimen cons I found last fall - I think they are new, although I may be wrong. However if one or both are new I would like to name one Pinus Manchesteri after His Grace the Duke of Manchester with whom I traveled some in the Sierra Nevada Mts. — The specimens marked No 1 I (Balfouri) came across near the Kearsarge Pass at the head (waters) of Kings River summit of Sierras. 12000 ft alt. and on the 3d day of Sept. No 2 (aspleta) found on the 7th of Sept on summit of Sugo Mountains Sugo Co Cal. 9000 ft alt. Both are beautiful trees and very regular in form

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and very straight and tall. No 1 would average about 80 ft high, No 2 would aver-age something over 100 ft high, and tapering to a very fine point, also very hardy evidently."

He asks an investigation of the Specimen and an opinion as to the species he One of them I take to be P Balfouriana - the other I do not feel so sure about. I would like to have your opinion respecting them.

We have the collection of woods back again - but piled up without any place for display — I am having a number of sets of small specimens prepared - and if you desire them can I think furnish you specimens of all the Conifers.

Yours truly

Geo. Vasey

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Rec Apl 27
Ans 29

Polyg. Contrib.

Department of Agriculture.

Washington, April 25th 1877

Dr Geo Engelmann

My dear Sir,

We received lately several logs of woods which Dr Palmer collected in Arizona a year ago, and which should have been in at the Centennial, but from some failure in the shipping arrangements remained in storehouse until recently hunted up by Dr Palmer.

They are 1 Juniperus with rough checked bark which I suppose is the J. pachyphloea of Torrey — 1 Juglans rupestris — 1 Parkinsonia probably aculeata — 1 White and 1 Black Oak. Most of these logs had enclosed with them some twigs and leaves, but they had become broken and defoliated. I send specimens of such as I find — I am puzzled over the Black Oak; the foliage resembles that of Q. Emoryi, but this is classed as a White Oak in your paper on the Oaks, while

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the wood of this specis is unmistakably that of a Black Oak, while the other is clearly a white Oak (Q. Oblongifolia?)

Will you pleas give me your opinion of them — As to the specimens of woods, I wish to enquire if the Academy of Sciences of your city would accept a full set, and give them conspicuous shelfroom, and if they will do you think it would be well so to dispose of a set. St Louis is the center of the Mississippi States and would be a convenient point for persons, seeking of those States Scientific information. A set of these specimens would require I think over 100 feet, running measure, of shelf room for their display. They should be conspicuously labeled on the back (they are now marked on the plane surface) like books on a shelf, and be accessable to persons wishing to study them —

Truly Yours
Geo. Vasey

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GEORGE ENGELMANN PAPERS

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Rec'd May 31st
Ans'd Jun 14

Department of Agriculture.

Washington, May 28th 1877

Dr Gov. Engelmann

My dear Sir

I have this day mailed to your Address a small package of Specimens of Boreal Oaks, under Numbers 1 to 4. Nos 1, 2 & 3 are from trees of which I furnished you fruiting Specimens last year as Quercus bicolor Var. or possibly Q. prinos var. No 1 is that which has leaves so much like Prinus monticola, but downy underneath. The tree is of the White Oak kind, scaly bark &c and may be a form of bicolor, or otherwise will be something akin to it. No 3 is, I suppose, another form of bicolor with nearly sessile acorns. These 3 trees grow near together just at the outskirts of the City. No 4 is the "alba-prinus," or "alba with thick varnished leaves" which I have both from one tree — the only one I know of, about

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3 miles from the city. It grows on a gravelly hill side, and in the vicinity are Q. alba + Q. Primus montícola. not any stellata or bicolor in the neighborhood. The bark is roughen and darker than that of White oak, but not rough as the Primus, apparently intermediate

It appears to me that all those forms which have not the peculiar Chestnut like bark with clean smooth limbs like Q. Primus montícola, should be separated from that species. Mr Robt Ridgway (associate editor of "Birds of N. A.") who is from S. Illinois, informs me that the Chestnut Oak of that region, which is commonly called Chinquapin, although a large tree, has the bark of a white oak. This is, I suppose what is called Q. Primus acuminata. It has sessile, small acorns. But Mr Ridgway says they have a chestnut oak with very large acorns, larger than those of macrocarpa, and the tree has the dark, deeply furrowed bark. Ill.

Ridgeway has observed the trees of that section very closely. I hope to obtain a good set of specimens from them next fall.

You say that Q. Michauxii has the leaves obtuse, or mostly cordate at base. I do not find any of ours to answer to this character. I cannot quite match Michaux's figures Plates 8 & 9 - It appears to me that if the acorns were transposed plate 9 would answer to our true Q Prinus monticola and plate 8 nearly to one of the forms of bicolor which I send you as No 1. In his description of prinus monticola he speaks of the resemblance of the bark to that of the Chestnut He says "when the trunk exceeds a foot in diameter it is covered with a thick, hard, deeply furrowed bark" - and that it is esteemed the best for tanning

Truly Yours
Geo. Vasey

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

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P. S. Our letters seem to have a
faculty of crossing en route —
Yours of the 26th is just recd —
Our wood sets are now ready and we
will ship your Academy a set in a
few days — The specimens are all
named in paint on the smooth side, but
will want another label for the back, ~~Do~~
like the label on the back of a book, so
that they can be referred to on the shelf.
A band of tin painted white and then painted
with the botanical name and as much more
as you think proper it seems to me would
be a good thing; — the tin band could be drawn
across the back and fastened by a small tack
to the wood. Some printed labels such as
you suggest to indicate the source of the
collection would be very proper.
Each block is also stamped with a number to
correspond to the number in the printed Cat-
alogue.

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Acc'd Jun 6
Acc — 14

Department of Agriculture.

Washington, June 4th 1877

Dr Geo Engelmann

My Dear Sir,

On Saturday last we shipped to the St Louis Academy 4 boxes of specimens of woods, which will probably reach you in a few days— The weight is 612 pounds on which the Academy will need to pay freight.

I hope the Collection will be acceptable. I will as soon as I can find time look up what specimens I can find of Quercus & Pinus for your own cabinet.

Yours truly
Geo. Vasey

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Rec'd Sept 13'
Ans — 16'

Department of Agriculture.

Washington, Sept 10th 1877

Dr G Engelmann

Dear Sir,

I owe you an apology for my long neglect of you. Your letter of the 6th. is just recd and I thank You for it. The heat of the summer has had a very depressing effect upon me, and disinclined me for the task of keeping up my correspondence. However, I hope the recent change of weather will be permanent and then I trust I shall improve. But you have been in my mind and I have already made some collections for you and will make yet more, and I hope that in a week or two I will be able to send you a package. Some two weeks ago I made a journey to collect fruiting specimens of the hybrid oak, alba prinos but, unfortunately, it had ~~to~~ fallen before the woodman's axe, and I had to return with the knowledge that the only known tree of this kind had perished — It is possible that an extended search may develop more living specimens — I have yet a few dried specimens

collected last year of which I will send you & Dr. Gray.
I cannot now call to mind the specimens of Juncus ~~Pinus~~ Pinus of which you speak, but think they must be of Dr Palmer's Arizona collection. I will make a search for them. I had no confidence in Dr Buckley's names, and do not doubt the specimens are as you state. Abies pectinata is fruiting in the Sm. grounds and I will endeavor to secure the specimens you want.
Mr Ward and Prof Chickering have been attending the meeting of the Am. Ass. Ad. Sc. at Nashville. They are both very enthusiastic in the pursuit of Botany and are working up the field hereabouts very closely.
I hardly know what to say of our change of Commissioners. I think the change will be an improvement, but still I would much have preferred another head.
I have a letter to day from California saying that a box of Cones had been sent me of Pinus aristata. They have not yet arrived, but are from the party who sent me last winter Pinus Balfouriana, and I hope are of that specie. Very truly Yours
Geo. Vasey

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Rec Sept 15 — 3
ar — 16

Washington D C
Sept 13 — 77

Dr G. Englemann

Dear Sir

I sent you yesterday by Mail a small box containing speci-
mens of Conifers from Yo Semite Cal. They
were sent by Mr Stigman, but he does not
state where they were collected — It they
are Abies Williamsonii and 2 pines which
he sent as flexilis & aristata, but which
I take to be albicaulis & Balfouriana. Pleas
examine them and report on them as soon
as convenient — You can retain the
specimens ——

Yours truly
Geo. Vasey

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Rec Oct 13 16
Ans ——— 16

Department of Agriculture.

Washington, Oct 11th 1877

Dr G. Engelmann

My dear Sir,

Your Card was rec'd

Several days ago. I am sorry that I could

not furnish you my oak specimens and

Remarks before your paper went to press. I

thought best to wait until I could get togeth

all the specimens for the season, and get them

dried. Day before yesterday I went up the Pото-

mac River to look for that curious oak

of which I sent you specimens several years ago.

Its leaves were like those of Quercus acuminata, with

abnormal fruit buds— I found the tree again and

it was full of those abnormal buds - most of them

developed into fascicles of small leaves. The closest

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scrutiny discovered on the tree (a small one and much decayed) only 5 acorns, which are perfect and yet firm in the cup. They are small and sessile. The leaves are white beneath and the bark is that of bicolor. Some leaves from young twigs show a close approach to the common forms of bicolor. 2. bicolor presents a very great diversity of forms. I am now satisfied that the peculiar ~~—~~ form sent you last year and again last Spring in flower (No 1) with leaves like Prinos, is one of the forms of bicolor. The pubescent under surface of the leaves and the white shaggy bark determine its place. One tree 2. Prinos monticola has the dark colored, thick and deeply furrowed bark (on old trees) and smooth limbs much like those of 2. rubra.

I cannot think that <u>a species</u> can vary in <u>this character of bark</u> so much as to include any forms with the loose scaly bark of the alba & bicolor.

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I am not acquainted with the Q. Prinos var. acuminata as it occurs in the west; but if its bark is like the bicolor, I should count it under that species. I should have said that the acorns of our Prinos monticola are large, generally longer and narrower than those of bicolor, shallower in the cup, of a rich varnished chestnut brown color when ripe, and a little bitterish to the taste, not so sweet as those of bicolor. I dont know but a distinction might be made of bicolor, into the 2 principal forms, 1st. with long pedunckd acorns and obovate leaves & 2d. short pedunckd or sessile acorns (also smaller in size) and prinoid leaves. I think I will be able to make up the package for you to morrow, when you will be better able to understand my remarks — Now for Abies pectinata. The specimen I sent you I think was that species — The leaves on the branches generally have the 2 ranked

Character — I will enclose a specimen of twig from the lower branches of the same tree as that from which the Cone was sent, and also a twig of the A. Cephalonica — Both species are in the Sm. grounds & both fruiting. Some time ago You asked for a specimen of Polygala Curtissii — We have only the var. Pycnostachya — I have searched carefully for the typical form during several years, but have not met with it and as there are but 1 or 2 specimens in existence so far as I can learn, I am inclined to think that the one in Herb. Gray (of which I have a rough figure) is an attenuated and unusual state of our var.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Respectfully Yours
Geo. Vasey

P. S. I send a leaf specimen of an Oak in the Sm. grounds which I have marked Q. bicolor or macrocarpa? It puzzles me. It is not fruiting this year but I send a package of last years acorns which were under the tree —
I also send a specimen & acorns of a hybrid in the Botanic garden there called Q. heterophylla — but it is not the heterophylla which Mr Canby collects in Delaware —

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Rec Nov 28

Department of Agriculture,

Washington, D. C. Nov 24th 1877

Dr. Geo. Engelmann

Dear Sir

Your letter of the 21st inst is recieved, and I am glad to hear from you.
I wrote to Mr Stigman for a statement of the locality and altitudes of the specimens sent last - albicaulis & flexilis - but have had no reply.
I will attend to your request about seeds for Mr. Gilman and have some sent to him if possible
As to Carex Vaseyi I dont know what to say, indeed I fear its specific characters are too close to C. monile -
I will look over our collection and if possible send you a specimen.
As to my health - it has improved since the cool weather came on, and I find myself enjoying very good health.
There have been a good many changes in this Department within 3 or 4 months, and in the tremendous struggle for places I did not know but I should be displaced, but the Commissioner to day informed me that he did not contemplate any change in my position, so that I

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feel more comfortable. There was very good cause for most of the changes that have occurred — perhaps for all — I think the Commissioner is disposed to do well, and to improve the character of the Dept. As for myself I have given my entire time to my duties, and even gone beyond what I was obliged to do. When your paper on the Oaks is ready, if you can send copies to Prof. J. W. Chickering, Deaf Mute College Washington — to Mr L. F. Ward corner 15th St & R.I. Avenue to Mr Wm Saunders, Dept of Agriculture, to Mr Wm Smith Botanic Garden Washington, & to Mr Robt. Ridgway, Smithsonian Inst., they will be appreciated.

Yours very truly
Geo. Vasey

P. S. Your leaves of Abies pectinata are quite different from those I sent you — but still I think there is a specific difference between the 2 forms in the Sm. grounds whatever may be their names.

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Rec'd Febr 11"

Department of Agriculture.

Washington, Feby 8th 1878

Dr Geo Engelmann

My dear Sir,

Yours of the 14th ult. was duly rec'd. I delayed answering sometime in expectation of your paper, thinking that might throw some light on the Oregon Specimens. I will give a list of the Oregon sections in full—

No 1. Juniperus occidentalis — called Cupressus Nutkaensis by Mr Dupuy

2. Larix occidentalis

3. Abies Engelmanni — called A. Williamsoni by Mr Dupuy

4. Prunus mollis

5 Acer circinatum

6. Pyrus rivularis

7. Thuja gigantea

8 Abies grandis

9 Abies Douglasii. called Abies amabilis by Mr Dupuy, but the cones and wood are clearly those of A. Douglasii

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No 10. Abies Mertensiana — called A. Canadensis by Mr Dufur

" 11 Taxus brevifolia

" 12 Abies ——— called A. Douglasii by Mr Dufur,

I cannot find the leaves & cones but a memorandum made at the time they were received says Cones are A. Douglasii, but leaves like those of A. amabilis. The cones were not attached to the twigs, and as I could not consider the wood & bark to be consistent with A. Douglasii, I concluded Mr Dufur had made a mistake, and that this was the true Amabilis ~~Extra No 9~~.

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" 13, Abies Menziesii.

The No 12 will have to be left for future determination. I have no A. grandis from the Pacific slope except the specimen from my son which was a small tree showing the blistered bark, and Mr Dufur's No 8 which is from a large old tree with rough bark - of which I believe I sent you a specimen - certainly there must have been a specimen in the Academy's set. If you did not have a specimen I think I can still send you one. I have just been looking at Mr Lemmon's specimen of Abies Amabilis = A. magnifica - They are from large trees and have rough, thick

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bark, but softer white wood, with larger rings - not at all like No 12 Oregon - Of Abies nobilis & A. bracteata we have no wood. If A. nobilis proves to be equal to A. magnifica then our No 12 Oregon will be excluded from that. Can it be A. bracteata? If not I see nothing remaining but to consider it a var. of A Douglasii, or a new species. I hope we shall be able to get some good botanist into that region to determine these questions.

Yours truly
Geo. Vasey

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Rec June 26

Department of Agriculture,

Washington, D. C., June 24th, 1878.

My Dear Sir,

Yours of the 18th has been rec'd and I am reminded of my great negligence. I often think of you and am greatly obliged for your valuable papers and other favors; but I have excused myself from much correspondence lately on account of my health which has not been good lately. I am expecting to take a few excursions down into the country which I hope will do me good. It has been about as much as I felt like doing to attend to my regular office work. I am gradually bringing the Herb. into a satisfactory state. There are a few orders especially Cactaceæ, which I shall hardly be able to elaborate, and when you get through with your present hard pressure I hope I may look for some helps from you in that order.

My son is spending this season in the South making a collection, chiefly in N. Alabama, Ga, S. & N.C. & Tenn. I hope he may have good success.

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I gave up long ago my no 282 from Oregon as A. amabilis — but it was hard to call it Douglasii considering the bark — wanting the mottled appearance and softer texture of that tree, as I have always seen it from other Sources — However, as comes of A. Douglasii came to represent this log, it seems altogether likely that it is a form or var. of it — and then the spiral vessels being present seems to make it conclusive.

As to the 2 Species of Vitis I fear I cannot give you much information, as I have not given them attention, but I will bear them in mind hereafter, and if learn anything, will communicate to you.

I have not heard from Mr Wolf in a long time. I suppose he is still at Canton, Ill. as I have not heard of any change —

Very truly Yours
Geo. Vasey

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Rec May 6
Ans — 13

Department of Agriculture,

Washington, D. C., May 1st, 1880.

Dr Geo Engelmann

My dear Sir

I received some time ago a letter from you, and subsequently your paper on Pinus for which I tender you my thanks. It is a very interesting and useful revision of the genus.

I thank you for your kind enquiries concerning my health, which has been very good for a year past. I can endure the work of the office pretty well, but have to be careful not to tax my mind too much.

Dr. Parry was here a few weeks ago, and I understood from him that you and he expected to visit Oregon this summer to study the conifers. I hope you will have a satisfactory season. My son Geo. R. Vasey has gone to California chiefly for Prof. Sargent to investigate some of the trees, especially to look up Abies bracteata &c.

I send you to day by mail a small package mostly of Euphorbias - most of them collected by my son in Northern Alabama in 1878 which you will do me a favor to name and

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return to me, unless they are especially desirable to you. I inclose some stamps to prepay return postage.

With great respect
Ian Yours truly
Geo. Vasey

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Rec April 4th
An — 17

Department of Agriculture,

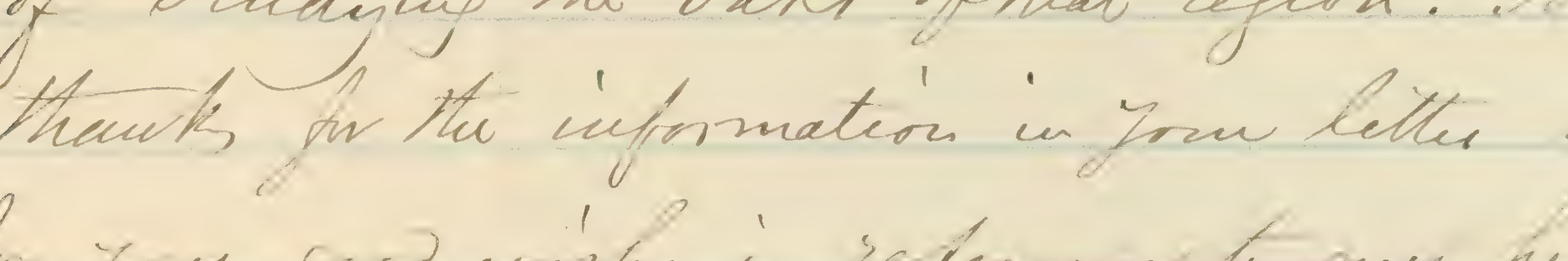
Washington, D. C., April 2nd, 1881.

Dr Geo Engelmann

My dear Sir

I send you to day by mail a package of specimens of the Oaks about which you wrote, together with some Cacti and Cuscutae collected in Cal. by my son, when you met there, and I will be obliged to you if you will give the names and return to me with the oaks. I hope you have had a good time in your Southern trip and had the opportunity of studying the oaks of that region. Many thanks for the information in your letter and for your good wishes in reference to my health which is quite good at present. I enclose stamps for return postage.

Truly Yours
Geo. Vasey



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Rec Nov 7

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs also When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Nov 5th, 1881.

Dr Geo Engelmann

My dear Sir

I am glad to hear from you again and to learn of your well being. I would be glad to see some of the new Euphorbias

My son made a very excellent Collection in Arizona & New Mexico so far as quality is concerned, but he was taken sick with fever in August and was obliged to suspend work. His Collection amounts to about 500 Species embracing many rare things some few of which I have not seen before, among the rarities are Hesperocallis undulata, Vanqueliniá Torreyi, Stillingia annua, Stenandrium barbatum, Greggia camponemi, Streptanthus carinatus, and Species of Hymenathenum, Bahia, Riddellia, Hymenopappus, Baileya Actinella, Astragalus, Dalea, Nama, Lycium, Zizyphus Hoffmanseggia, Phacelia, Eriogonum, Hedeoma &c

I expect there will be some Cactaceæ & Euphorbiaceæ for which I shall be glad to have your determination, - I have yet received only a

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portion of the collection.
I have been much intersted lately in examing
grasses rec[d] from Mr Howell and from Parish Bros
also from Mr M E Jones. Among them are sevral ad-
ditions to the Flora of California, some new, of which
I have just sent descriptions of them to the Gazette.
Wishing sincerely for your continued health and
usefulness

I am dear Sir
Yours truly
Geo. Vasey

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Rec'd Febr 11th
Ans — 14

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., Feby 9th, 1882

Dr Geo Engelmann

My dear Sir

I send you to day by mail a small package of specimens of plants in your line of study which I will thank you to examine and name for us. They are of my own Collection and I would like them authentically named before they are distributed. I will be glad to have the package returned so that I may have the specimens under your own handwriting, and especially as in this case of Cactaceæ our collection is meagre. If there are any among them of which you would especially desire specimens I will send them you hereafter.

Very truly Yours

Geo. Vasey

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Acc May 17
Ag 2 1

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., May 15th, 1882.

Dr Geo Engelmann

My dear Sir

I ought sooner to have acknowledged the receipt of your valuable paper on Abietes. I have not been in good health for several weeks. I went to ~~Phil.~~ Cincinnati at the invitation of Dr Warder and gave the Forestry Conv. a paper on the Coniferae of the U.S. I ought however to have first consulted you on 2 or 3 points, and as Dr Hough proposes to publish the paper in the new Journal of Forestry I will now write to you for some information, that I may make the paper as accurate as possible.

1st I see that ~~Mr Engle~~ Howell distributes from Oregon Abies amabilis. Have you decided that that is a good species?

2d. Mr Engle ~~also~~ has on his list Pinus reflexa - Is that also to be added to the list?

3d Do you admit Cupressus Arizonica E.L.G.?

4th Please give me some information as to localities and

character of our other Spein of Cupressus. Did you
consider all the specimens of my sons that I sent you, to
be C. Goveniana? Is any thing more known of C.
Macnabiana? Are there any other new species discovered.
With many thanks for your favor, and with my best
wishes for your health I am Yours truly

Geo. Vasey

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GEORGE ENGELMANN PAPERS

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Rec'd May 25

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

Department of Agriculture,

DIVISION OF BOTANY,

Washington, D. C., May 23d, 1882.

Dr Geo Engelmann

My dear Sir,

Yours of the 17th inst was duly rec'd, and I am very much obliged to you for the information you so kindly furnish - I was stupid to overlook your article in the Gazette. That number came to hand when I was absorbed in some other studies (about grasses I think) and I laid it aside with only a glance, and had consequently forgotten the article.

We have in Herb. a specimen of what I suppose to be Cupressus Goveniana, Collected by Dr Parry & marked "Red Mountain" — Of C. Macnabiana we have no good specimen.

I am now studying our Paspali - Mr Bentham makes 3 sections of Paspalum - Eupaspalum - Cabrera & Anastrophus. Most of our species belong to Eupaspalum Mr Bentham makes 4 subsections, Anachyris, Opisthion, Pseudocerisia & Cerisia (Cerisia Persoon not Elliott). Ours are of the 2d & 3d subsection. Of Pseudocerisia we have P. fluitans Kunth & P. Walteri Schultz.

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Of Opisthion I make as follows: P. distichum L. including P. vaginatum Sw. & P. conjugatum Berg. (reported from Louisiana by Dr Chapman) P. debile Mx, P. setaceum Mx, P. Bldgettii Chap. P. laeve Mx. (the var dilitissimum Eng. I do not know) P. longipedunculatum L. Cont

(Of this we have a single specimen, 809 E Hall Texas Coll Nees makes it a synonym of P. arenarium Schrad, but our plant is not that as figured in Fiori, Pl 109. Ours is near P. plicatulum or undulatum - Can you give me any information about it?) P. praecox Walt., P. undulatum Poir., P. Floridanum Mx & var. glabratum Eng., & P. ovatum Trin., (exactly Trin fig. Pl 109) from La. Texas, & Va. and P. racemulosum Nutt.

Of the 3d Section Anastrophus we have P. digitaria Poir,, and that distributed by Mr Curtiss as P. obtusifolium Raddi, which is also 813 E Hall Texas Coll. This seems to be also the same as Trinius fig. 118 P. platycaule Poir. which in Gris. W. Ind. Flora is made a synonym of P. compressum Nees, but our W. Indian specimen of P. compressum Nees are very different from the Fla native plant above named P. obtusifol.

If you have given any attention to this genus and can give me any information I shall be obliged.

Very truly Yours
Geo. Vasey

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

P. S. I have omitted in my list a Paspalum no 224 Dr. Garber Miami Fla. which is entirely unknown to me, but which would very properly be called P. monostachyum - It is 3 to 4 ft high, and terminated by a single erect spike 6 to 8 inches long.

Again - I have just noticed Trinius figure of P. obtusifolium Raddi Pl. 115. Clearly the Florida plant is not that but is P. platycaule Poir.

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MISSOURI BOTANICAL GARDEN

Rec'd Sept 22
Ans Oct 4

Cotton for Sargent

Department of Agriculture,

Washington, D. C., Sept 19th, 1882.

Dr Geo Engelmann

My dear Sir

I have been looking around with some care among our Oaks during this season and have met with some singular forms. I send you to day by mail a box containing ~~fresh~~ specimens of 3 varieties or hybrid forms of Q. alba, numbered 1, 2, & 3, which I think you will be intersted in.

No 1 is from a tree on the grounds of Mr John Saul, about 2 miles from the city. It is to me a great surprise. The tree is probably 40 or more feet high and a foot in diameter; the bark and the habit of the tree is nearly like Q. rubra — none of the scaly bark of the white oak I think there is no doubt of its being a hybrid of Q. alba with Prinos. I sent you specimens of a hybrid several years ago which I then thought to be alba × Prinos, but I now think that I was mistaken and that that was an alba × stellata, and my

near one of the other two which I now send you. No 2, is from a tree some 5 miles from the city, and from the character of the acorns and leaves I judge to be alba x stellata, the stellata perhaps predominating. The bark is close and not scaly. No 3 is from a tree a mile or two from the city and is peculiar. The bark and habit of the tree is nearly the same as of that tree which I found several years ago, which was destroyed, but the leaves are narrower and perhaps not so thick. I suppose this to be alba x stellata with more tendency to the alba. I have seen 2 or 3 other hybrids of this class, which I may be able to send you specimens of, but the most remarkable form I have seen is the no 1. There are 2 or 3 young seedlings apparently of this tree growing underneath it, and as they are on the ground of an intelligent nurseryman I will try to induce him to transplant one or two of these and see what they will produce in the course of years. It is rather a stately and showy tree and will be worth culture.

Truly Yours
Geo. Vasey

P. S. I am to have figures of these forms prepared

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OFFICE, 600 OLIVE ST.

St. Louis, 5 June 1882

Dr Geo Engelmann

Dear Sir. We send you a few

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Rec'd Oct 11th

Department of Agriculture,

Washington, D. C., Oct 9th, 1882

Dr. Geo Engelmann

My dear Sir,

Yours of the 4th inst is rec'd. and I am much obliged for your notes on the Querci I think I was too hasty in my statement about the Quercus sent you in 1876 & 77. On further study it would seem to be as strongly related to Prinos as to stellata, perhaps more likely the latter. When I first saw No 1 sent you lately I was much puzzled to place it, and the idea of its being a new variety occurred to me, but the leaves want in the thickness, and somewhat in size, and especially in the more uniform width. Aside from these points it would seem to be a variation of Prinos.

9. Prinos prinoides?

I will as you suggest send cuttings of these Oaks to Prof. Sargent.

Yours truly

Geo. Vasey

P. S. The leaf of No 1 has a lighter slenderer petiole than the others

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GEORGE ENGELMANN PAPERS

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Rec Dec 6th
Ans — 7

In sending specimens of plants for investigation it is desirable to have the leaves, flowers, and fruit; and, in the case of bulbous plants, the bulbs, also. When they are sent from a distance it is best to prepare the specimens by drying them under pressure between folds of absorbent paper, otherwise the parts shrink and break so as to be hardly recognizable. When the dried plants are sent they should be protected from breakage in the mail by being inclosed between pieces of stiff pasteboard. Packages weighing less than four pounds can be sent by mail at the rate of one cent per ounce. Write the name of the sender on the outside. In the letter accompanying the specimens state where collected, the date, and any other particulars of the plant, whether reputed poisonous, pestiferous, medicinal, or useful.

United States

Department of Agriculture,

DIVISION OF BOTANY,

Washington, Dec 4" 1883.

Dr Geo. Engelmann

My dear Sir

Your letter of the 30th ult. and the ~~package~~ pamphlet on the Vines of the U.S. have been rec'd. And I return you my sincere thanks for the same.

As to my "Grasses" it is a preliminary affair and I hope soon to make it more complete, and eventually to make a full synopsis. But it is much work, for there are many obscurities of synonymy, as well as many new species & varieties, to be determined.

Dr Buckley was here a day last week, on his way to New York State where he is to spend 2 or 3 months I think. He left with me a specimen or two of his Quercus Vaseyana, which I send you this day by mail. To me it looks much like some of those small leaved oaks which have been called undulata, var. But you can tell on sight.

I also send a specimen of Euphorbia which has puzzled me somewhat. Can it be a maculata? If convenient you may return the Quercus as I'll all have of it Truly Yours Geo. Vasey

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U. S. Paspali

Section Eupaspalum Beuth

Subsection Opisthion

1. Paspalum distichum L = P. vaginatum Sw.
2. " conjugatum Berg. (La. Dr Hale)
3. " setaceum Mx. = P. debile Mx.
4 " Blodgettii, Chap.
5 " praecox Walt.
6 " laeve Mx
" " var. altissimum Eng.
7 " undulatum Poir
8 " Floridanum Mx
" " var glabratum. Eng.
9 " ovatum Jun.
10 " racemulosum Nutt. 10a. P. monostachyum.

Subsection Pseudocenisia

11 Paspalum fluitans Kth
12 " Walteri, Schultz

Section Anastrophus

13 Paspalum Digitaria, Poir.
14 " Platycaule Poir.? = P. obtusifolium Raddi

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